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For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

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(54) Title: WOUND HEALING METHOD AND KITS

(57) Abstract: Electroporation is used to enhance the wound-healing benefit provided by transfection of nucleic acids that encode cellular growth factors. Wounds which are amenable to the method include *inter alia* cutaneous lesions, muscular lesions, osseous lesions, burn wounds, and gastrointestinal anastomoses. Kits comprise electrodes and nucleic acids encoding cellular growth factors.

## INTERNATIONAL SEARCH REPORT

International application No.

PCT/US03/41437

**A. CLASSIFICATION OF SUBJECT MATTER**

IPC(7) : C12N 15/63, 15/85, 15/87; A61K 48/00; A01N 63/00; A61N 1/30  
 US CL : 424/93.2; 435/455; 604/20, 21

According to International Patent Classification (IPC) or to both national classification and IPC

**B. FIELDS SEARCHED**

Minimum documentation searched (classification system followed by classification symbols)  
 U.S. : 424/93.2;435/455

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)  
 Please See Continuation Sheet

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 6,077,692 A (RUBEN et al) 20 June 2000 (20.06.2000), see whole document, especially columns 2-5.	1-8,12,17,19,20,25
X	US 6,280,411 B1 (LENNOX) 28 August 2001 (25.08.2001), see whole document, especially columns 5-6.	1,2,12,13,25
Y		8,11,12,13,15,17,18,3 2
Y	US 6,514,762 B1 (WANG) 04 February 2003 (04.02.2003), see whole document, especially columns 5-10 and 21-22.	32
X	US 2002/0115957 A1 (SUN et al.) 22 August 2002 (22.08.2002), see whole document, especially pages 6-8.	1-6,19,20,25,28
Y		8,11,12,13,15,17,18,3 2
Y	MIR et al. High-efficiency gene transfer into skeletal muscle mediated by electric pulses. Proc. Natl. Acad. Sci. USA, April 1999, Vol. 96, pages 4262-4267, see entire document.	8
Y	ADAMAIN et al. Clinico-morphological changes in a burn wound after electric stimulation with pulsatile current Khirurgia. September 1990, Vol. 9, pages 77-81, see entire document.	15

Further documents are listed in the continuation of Box C.

See patent family annex.

## \* Special categories of cited documents:

- "A" document defining the general state of the art which is not considered to be of particular relevance
- "E" earlier application or patent published on or after the international filing date
- "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- "O" document referring to an oral disclosure, use, exhibition or other means
- "P" document published prior to the international filing date but later than the priority date claimed

"T"

later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X"

document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y"

document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&amp;"

document member of the same patent family

Date of the actual completion of the international search

17 May 2004 (17.05.2004)

Date of mailing of the international search report

21 SEP 2004

Name and mailing address of the ISA/US

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PCT/US03/41437

## INTERNATIONAL SEARCH REPORT

C. (Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y,P	US 2003/0053989 A1 (KOVESDI) 20 March 2003 (20.03.2003), see whole document especially pages 3-5.	1,12,13,18,19

# INTERNATIONAL SEARCH REPORT

International application No.

PCT/US03/41437

## Box I Observations where certain claims were found unsearchable (Continuation of Item 1 of first sheet)

This international report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1.  Claim Nos.:  
because they relate to subject matter not required to be searched by this Authority, namely:
  
2.  Claim Nos.: 21 and 23  
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:  
Claims 21 and 23 lack proper antecedent basis for the term "wound eschar" because the claims from which they depend do not recite the term.
  
3.  Claim Nos.:  
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

## Box II Observations where unity of invention is lacking (Continuation of Item 2 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

1.  As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.
2.  As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3.  As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:
  
4.  No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

### Remark on Protest

<input type="checkbox"/>
<input checked="" type="checkbox"/>

The additional search fees were accompanied by the applicant's protest.

No protest accompanied the payment of additional search fees.

INTERNATIONAL SEARCH REPORT

PCT/US03/41437

**Continuation of B. FIELDS SEARCHED Item 3:**

WEST2.1, STN

search terms: electric field, nucleic acid, electrode, growth factor, pulse, KGF-1, VEGF, PDGF, HIF-1, wound, gold, needle, brass, plasmid